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| APPLICATION NO.       | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.    | CONFIRMATION NO. |
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| 27667                 | 7590        | 04/20/2005           | EXAMINER               |                  |
| HAYES, SOLOWAY P.C.   |             |                      | VERBITSKY, GAIL KAPLAN |                  |
| 130 W. CUSHING STREET |             |                      |                        |                  |
| TUCSON, AZ 85701      |             |                      | ART UNIT               | PAPER NUMBER     |
|                       |             |                      | 2859                   |                  |

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                            |                  |
|------------------------------|----------------------------|------------------|
| <b>Office Action Summary</b> | Application No.            | Applicant(s)     |
|                              | 10/629,186                 | PARK, SUN        |
|                              | Examiner<br>Gail Verbitsky | Art Unit<br>2859 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 31 January 2005.  
 2a) This action is FINAL.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 2-5,8-10,12-19,22-24 and 31-53 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) 2-5,8,12-19 and 22 is/are allowed.  
 6) Claim(s) 9-10,23-24,31-53 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date 01/31/2005.

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 24, 51-53 rejected under 35 U.S.C. 102(b) as being anticipated by Polye et al. (U.S. 2483350) [hereinafter Polye].

Polye discloses in Figs. 1-2 a device in the field of applicant's endeavor comprising a metallic substantially cup-shaped contact element (cup) 1, 19 electrically and mechanically (welded) connected to a thermocouple sensing junction 17; a stud(s) mechanically coupled to the contact element 1, 19 by means of an insulating material/element (block) 9 made of a ceramic material and of an annular shape and thus, electrically isolated from the contact element; conductive elements (lead wires) 5, 6 electrically connected to the thermocouple junction 17, inherently, for connection to a thermocouple cable to transmit a temperature signal from the thermocouple junction 17. As could be understood from in Fig. 1, the conductive elements 5, 6 are capable of moving up/ down along the length of the studs.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 49, 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Polye in view of Prior Art admitted by applicant in the specification, pages 2-3 and Fig. 5 [hereinafter Prior Art].

Polye discloses the device as stated above in paragraph 2.

Polye does not explicitly state that the threaded studs are stainless metal and the contact element/ cup is made of K-type material, as stated in claims 49-50.

Prior art discloses in Fig. 5 the device/ thermocouple junction box in the field of applicant's endeavor comprising a metal cup (contact element) 220 made of K-type material (metal) and a stainless steel threaded stud 203.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the contact element/ cup, disclosed by Polye of K-type metal, as taught by Prior Art, because the use of the particular material, i.e., K-type metal to make the cup, absent any criticality, is only considered to be the "optimum" material that a person having ordinary skill in the art at the time the invention was made using routine experimentation would have found obvious to provide for the cup disclosed by Prior art since it has been held to be a matter of obvious design choice and within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use of the invention. In re Leshin, 125 USPQ 416.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the stud, disclosed by Polye of stainless steel, as

taught by Prior Art, because the use of the particular material, i.e., stainless, absent any criticality, is only considered to be the "optimum" material that a person having ordinary skill in the art at the time the invention was made using routine experimentation would have found obvious to provide for the cup disclose by Prior art since it has been held to be a matter of obvious design choice and within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use of the invention. In re Leshin, 125 USPQ 416.

5. Claims 9-10, 23, 31-32, 35-36, 41, 44, 45, 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Polye in view of Thomas (U.S. 2992402).

Polye discloses the device as stated above in paragraph 2.

Polye does not explicitly teach that the conductive element is a washer or lug, as stated in claim 10. Poly does not explicitly teach that the insulating element is independently movable, as stated in claims 9, 23.

Thomas discloses in Figs. 1-2 a device in the field of applicant's endeavor wherein, a conductive element is a washer-like connector member 48 connecting conductive thermocouple wires to studs and to leads (cable), and thus, being a terminal part of the conductive elements (wires). Since studs have threads, they are movable relative to the washers 48, and thus, in a broad sense, it is considered, that the washers 48 are movable relative to the studs along the length of the studs. The device also has insulating elements/ material (washer) 40. As shown in Fig. 1, the studs are movable upon the insulative washer 40, thus, in a broad sense, it is considered, that the

insulative washers 40 are independently movable with respect to the studs and thus, with respect to the conductive elements 48.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device, disclosed by Polye, so as to have the conductive elements (wires) attached to the studs with washers being a terminal part of the conductive elements, as taught by Thomas, in order to provide the device with a strong electrical and mechanical connection between the thermocouple leads and the studs, as very well known in the art.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device, disclosed by Polye, so as to have the insulating element independently movable along the stud, as taught by Thomas, so as to allow the operator to rotate the stud relative to the insulating element, in order to remove or extend the studs, when necessary

6. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Polye in view of Champoux et al. (U.S. 4202242) [hereinafter Champoux].

Polye discloses the device as stated above in paragraph 2.

Polye does not teach the limitations of claim 47.

Champoux teaches to attach one structure to another by using interference fit.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device disclosed by Polye, so as to attach the stud to the cup by means of interference fit, as taught by Champoux, to the

insulation material, so as to ensure a tight seal between the stud, insulation and cup, protecting the device from water related damage.

7. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Polye and Thomas, as applied to claims 9-10, 23, 31-32, 35-36, 41, 44, 45, 46 above, and further in view of Champoux et al. (U.S. 4202242) [hereinafter Champoux].

Polye and Thomas disclose the device as stated above in paragraph 4.

They do not teach the limitations of claim 39.

Champoux teaches to attach one structure to another by using interference fit.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device disclosed by Polye and Thomas, so as to attach the stud to the cup by means of interference fit, as taught by Champoux, to the insulation material, so as to ensure a tight seal between the stud, insulation and cup, protecting the device from water related damage.

8. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Polye.

Polye discloses the device as stated above in paragraph 2.

Polye does not teach the limitations of claim 48, because, although they show the attachment of the stud to the insulation and to the cup, they do not explicitly teach using brazing or welding, as stated in claim 48.

With respect to claim 48: using brazing or welding to attach the stud to the cup, absent any criticality, since it is very well known in the art to attach two structures together using brazing or welding. Therefore, the use of brazing or welding to attach the stud to the insulation and the cup, absent any criticality, is only considered to be nothing

more than a choice of engineering skill, the choice or design, because: 1) neither non-obvious nor unexpected results, i.e., results which are different in kind and not in degree from the results of the prior art, will be obtained as long as the stud is attached to the insulation and the cup as already suggested by Polye, 2) brazing or welding claimed by applicant and the attachment used by Polye are very well known alternate types of attaching means which will perform the same function, if one is replaced with the other, of attaching the stud to the insulation and the cup, if one is replaced with the other, and 3) the use of brazing or welding by applicant is considered to be nothing more than the use of one of the numerous and well known alternate types of attaching means that a person having ordinary skill in the art would have been able to provide using routine experimentation in order to sealingly attach the stud to the insulation and the cup.

9. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Polye and Thomas.

Polye and Thomas disclose the device as stated above in paragraph 4.

They do not teach the limitations of claim 40, because, although they show the attachment of the stud to the insulation and to the cup, they do not explicitly teach using brazing or welding, as stated in claim 40.

With respect to claim 40: using brazing or welding to attach the stud to the cup, absent any criticality, since it is very well known in the art to attach two structures together using brazing or welding. Therefore, the use of brazing or welding to attach the stud to the insulation and the cup, absent any criticality, is only considered to be nothing more than a choice of engineering skill, the choice or design, because: 1) neither non-

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obvious nor unexpected results, i.e., results which are different in kind and not in degree from the results of the prior art, will be obtained as long as the stud is attached to the insulation and the cup as already suggested by Polye and Thomas, 2) brazing or welding claimed by applicant and the attachment used by Polye and Thomas are very well known alternate types of attaching means which will perform the same function, if one is replaced with the other, of attaching the stud to the insulation and the cup, if one is replaced with the other, and 3) the use of brazing or welding by applicant is considered to be nothing more than the use of one of the numerous and well known alternate types of attaching means that a person having ordinary skill in the art would have been able to provide using routine experimentation in order to sealingly attach the stud to the insulation and the cup.

10. Claims 33-34 and 42-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Polye and Thomas as applied to claims 9-10, 23, 31-32, 35-36, 41, 44, 45, 46 above, and further in view of Prior Art.

Polye and Thomas disclose the device as stated above in paragraph 4.

They do not explicitly teach the limitations of claims 33-34 and 42-43.

Prior art discloses in Fig. 5 the device/ thermocouple junction box in the field of applicant's endeavor comprising a metal cup (contact element) 220 made of K-type material (metal) and a stainless steel threaded stud 203.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the contact element/ cup, disclosed by Polye and Thomas of K-type metal, as taught by Prior Art, because the use of the particular

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material, i.e., K-type metal to make the cup, absent any criticality, is only considered to be the "optimum" material that a person having ordinary skill in the art at the time the invention was made using routine experimentation would have found obvious to provide for the cup disclose by Prior art since it has been held to be a matter of obvious design choice and within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use of the invention. In re Leshin, 125 USPQ 416.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the stud, disclosed by Polye and Thomas of stainless steel, as taught by Prior Art, because the use of the particular material, i.e., stainless, absent any criticality, is only considered to be the "optimum" material that a person having ordinary skill in the art at the time the invention was made using routine experimentation would have found obvious to provide for the cup disclose by Prior art since it has been held to be a matter of obvious design choice and within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use of the invention. In re Leshin, 125 USPQ 416.

***Allowable Subject Matter***

11. Claims 2-5, 8 and 22, 12-19 are allowed.

***Response to Arguments***

12. Applicant's arguments with respect to claims 2-5, 8-10, 12-19, 22-24, 31-53 have been considered but are moot in view of the new ground(s) of rejection necessitated by the present amendment.

***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in the PTO-892 and not mentioned above disclose related devices and methods.

Any inquiry concerning this communication should be directed to the Examiner Verbitsky who can be reached at (571) 272-2253 Monday through Friday 8:00 to 4:00 ET.

GKV

*Gail Verbitsky*  
*Primary Patent Examiner, TC 2800*



April 12, 2005